Small Molecules

Shz-1

Inducer of cardiac differentiation

Catalog # 73422

10 mg

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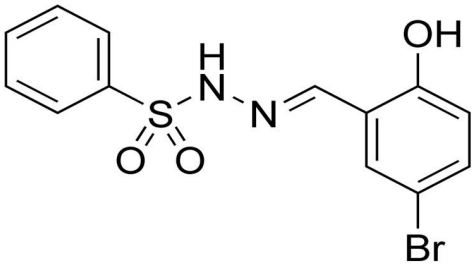
Product Description

Shz-1 is a cell-permeable, sulphonyl hydrazone (Shz) compound that activates cardiac differentiation through induction of genes such as Nkx2.5 (Sadek et al.).

Molecular Name:	Shz-1
Alternative Names:	Sulfonylhydrazone-1
CAS Number:	326886-05-9
Chemical Formula:	$C_{13}H_{11}BrN_2O_3S$
Molecular Weight:	355.2 g/mol
Purity:	≥ 98%
Chemical Name:	2-[(5-bromo-2-hydroxyphenyl)methylene]hydrazide-benzenesulfonic acid
Structure:	

Properties

Physical Appearance:	A crystalline solid
Storage:	Product stable at -20°C as supplied. Protect from prolonged exposure to light. For product expiry date, please contact techsupport@stemcell.com.
Solubility:	· DMSO ≤ 80 mM · Absolute ethanol ≤ 80 mM For example, to prepare a 10 mM stock solution in DMSO, resuspend 10 mg in 2.82 mL of DMSO. Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application. Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.

Published Applications

DIFFERENTIATION
· Promotes cardiac differentiation in mouse induced pluripotent stem cells (Quattrocelli et al.).
· Induces cardiac differentiation of human mobilized peripheral blood mononuclear cells; these cells enhance myocardial regenerative repair when injected in a cryo-injured rat heart model (Sadek et al.).

References

Quattrocelli M et al. (2011) Synthetic sulfonyl-hydrazone-1 positively regulates cardiomyogenic microRNA expression and cardiomyocyte differentiation of induced pluripotent stem cells. J Cell Biochem 112(8): 2006–14.
Sadek H et al. (2008) Cardiogenic small molecules that enhance myocardial repair by stem cells. Proc Natl Acad Sci U S A 105(16): 6063–8.

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This product is hazardous. Please refer to the Safety Data Sheet (SDS).